

5. New Hampshire's Role in the Region

5.1. Introduction

New Hampshire's electric grid is a part of the Independent System Operator of New England (ISO-NE), a private non-profit organization charged by the Federal Energy Regulatory Commission (FERC) with providing open and fair access to the regional transmission system; managing a non-discriminatory governance structure, facilitating market-based wholesale electric rates; and ensuring the reliable operation of the bulk power system.¹

ISO-NE includes six member states: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. ISO-NE is located in Northampton, Massachusetts and is governed by a ten member Board of Directors. No board member can be affiliated with any of the participants in the market, in an effort to ensure ISO-NE's independence and ability to administer a fair and efficient marketplace.

ISO-NE, created by the FERC in 1997 in response to deregulation of the wholesale electric market, is an outgrowth of the New England Power Pool (NEPOOL). NEPOOL was created in 1971 as a voluntary association of electric utilities in New England who established a regional network to direct the operations of the major generation and transmission facilities in the region. The NEPOOL members created a Control Center to centrally dispatch power using the most economical generation and transmission at any given time to match the load requirements of the region. This approach to a regional system saved money for NEPOOL participants and their customers, while increasing the reliability of the system. ISO-NE continues to use the knowledge of NEPOOL members, while operating through a competitive market.

NEPOOL members include investor-owned utility systems, joint marketing agencies, municipal and customer-owned systems, power marketers, load aggregators, generation owners and end users. The relationship among the NEPOOL owners is governed by an operating agreement, the Restated NEPOOL Agreement, which provides for the governance of the organization. The Agreement also provides guidelines for the operation of the wholesale power markets in New England, including a market-priced, bid-based power exchange into which participants can buy and sell electricity services. The NEPOOL Open

¹ More information on ISO and how it works is available at www.iso-ne.org.

Access Transmission Tariff requires that all entities are eligible to receive transmission service over Pool Transmission Facilities (PTF), which are transmission facilities in New England rated 69 kV and higher that move power around the region.

ISO-NE is responsible for operating the region's bulk power system, which includes more than 340 generators connected by over 8,000 miles of high voltage transmission lines, and for administering the region's wholesale power market. ISO-NE's mission is to ensure reliable service to New England's 6.5 million electricity customers, guarantee equal access to the transmission system, and to operate a fair, efficient wholesale electricity market.

5.2 Regional Electric Market Issues

New Hampshire's electricity industry is closely linked to regional, as well as national, electricity markets. While we have been interdependent with the larger New England power pool for several decades, regional and national electricity market issues have become increasingly important in recent years as deregulation of the electric industry has evolved. Several issues are of particular importance to the state.

First, the Federal Energy Regulatory Commission (FERC) is moving quickly to institute its vision of a competitive wholesale electricity market in New England and the rest of the nation. FERC's proposal for Standard Market Design (SMD) was released in July 2002, and is expected to be finalized in 2003. In the SMD proposal, FERC asserts the right to preempt states from exercising their traditional jurisdiction over electricity issues, and its proposal has become controversial on the national level. New England has already adopted some features now promoted by the FERC, but New England regulators and governors do not endorse all features proposed by the FERC. Some key open issues in wholesale market design include: who will be responsible for resource adequacy over time; how to maintain a level playing field between various resource options; how to prevent market abuses and extremely volatile prices; and how to promote sound environmental stewardship in electricity resource decisions.²

The price spikes and blackouts that plagued California after competitive markets were opened in the late 1990's have raised concerns across the nation about whether wholesale electricity can be supplied at reasonable prices and with sufficient reliability under competitive markets. Many agree that absent reforms to existing market models, these goals will not be achieved.³

In addition, the FERC has in recent years pushed the New England states (as well as other regions around the country) toward merging our markets with neighboring states to the south into a larger electricity market. Since the 1960's, New Hampshire's electricity transmission grid and generating plants have been operated by a regional power pool, and Independent System Operator of New England (ISO-NE)

² More information about SMD is available on ISO-NE's website, as well as at www.ferc.gov.

³ Congress has been considering legislation regarding wholesale electricity markets, but prospects for such federal legislation remain unclear at this writing.

opened the competitive energy market for the region in 1999. FERC announced in 2000 that it would like to see the boundaries of regional markets expanded considerably, with no more than 4 to 6 regions nationally.

More recently, ISO-NE and the NY-ISO have proposed to merge, creating the NERTO (Northeast Regional Transmission Organization). The proposal to merge ISO-NE with the NY-ISO raises questions about fairness in sharing benefits between New England and New York, how markets will be governed, how states will have the ability to protect their consumers, assurance that environmental issues will be considered and addressed, and how resource planning can be managed across a larger footprint. This is of particular concern as a result of the alleged gaming in California, and FERC's failure to intervene in an expeditious manner when California raised legitimate concerns and allegations about market manipulation.

The recent acknowledgements of Enron and Reliant, and the fact that California was seriously harmed with no meaningful recourse, mean that the possible movement to a NERTO could create a larger market which may be easier to game. These issues and others deserve the attention of New Hampshire regulators and policymakers to ensure that our state's, and our region's, interests are protected. The PUC has played an active role through NARUC (National Association of Regulatory Utility Commissioners), and NECPUC (New England Conference of Public Utility Commissioners), and through other avenues, and should be provided with the resources to continue in this important role.

The New England region also faces some more localized issues. ISO-NE has been promoting the concept of socialized regional investments in transmission capacity, to move power into "load pockets," which are areas with more demand for energy than local resources can supply. At least in the near term, New Hampshire stands to lose if expensive transmission into the greater Boston area or into Southwest Connecticut is built and the costs are recovered through transmission rates spread across all New England electricity consumers.

A further risk related to socializing investments to relieve localized constraints against moving power around the region is that it provides a perverse incentive for load pocket utilities and consumers to "lean on" the pool, deferring their own investments until the problem becomes severe enough to warrant a regional transmission solution. ISO-NE has a Regional Transmission Expansion Plan process, with a Transmission Expansion Advisory Committee of which the New Hampshire Public Utilities Commission is a member.⁴ This issue highlights the different situations of various sub-regions, and remains a problem that requires continued involvement of the PUC to represent the state's interests.

The Regional Transmission Expansion Plan (RTEP) is an annual engineering assessment of the region's electric power system, that FERC has charged ISO with developing. RTEP02 includes key findings

⁴ Information on the RTEP02 can be found at www.iso-ne.com/transmission/Regional_Transmission_Expansion_Plan/RTEP_2002.

relative to congestion in Southwestern Connecticut; potential reliability problems in Northwestern Vermont; bottlenecks in Maine and the Southeastern Massachusetts-Rhode Island area where power can not be transported to higher demand areas; the potential role of demand response to address congestion and improve reliability; and an estimate that the region may need up to \$900 million in transmission upgrades to improve reliability and efficiency.

The diverse stakeholders in the RTEP process believe that it could serve as the region's resource expansion plan, considering more than just transmission upgrades by analyzing other solutions to economic and reliability constraints through programs such as demand side management (energy efficiency) and distributed generation. Rather than being mandatory, the RTEP can serve to identify needs in the region so that that market will respond with creative solutions. In addition, the RTEP includes a regulatory back-stop if there are reliability concerns that will not be served by the market participants - i.e. when reliability requires an improvement that is necessary to "keep the lights on." The RTEP process is an important one that New Hampshire, through the PUC, should continue to be highly involved in.

The disastrous problems with wholesale electricity markets in California during the winter of 2000 - 2001 have underscored the importance of getting regional electricity industry structures right. New England presently has a comfortable margin of reserve electric capacity, resulting in moderate prices. New Hampshire has contributed to this margin by its approval of two merchant power plants now under construction in Londonderry and Newington. However, the erosion of confidence in energy trading markets after the California debacle, as well as the normal boom and bust cycle of the capital-intensive electricity industry, mean that power plant developers cannot currently secure financing for any additional capacity. There is a concern that growth in load will take up any excess capacity, causing prices to rise significantly. New Hampshire and New England should use this window of opportunity to continue to plan for our future and put in place industry structures designed to assure fair and reasonable prices for reliable supply, consistent with our obligations to provide safe, reliable, environmentally sound energy.

The tragic events that took place on September 11, 2001 highlighted the importance of evaluating security risks in energy planning (whether the result of deliberate sabotage to the system or because of an operational risk) for both the short and long term. In addition to dealing with "how to keep the lights on" while maintaining reasonable rates, energy officials also need to ensure that system security risks are addressed, and the potentially significant costs associated with protecting large-scale remote generation sites and necessary transmission networks. In this new paradigm, there are no reliable cost estimates available for increased security needs. However, it has been suggested that the costs will emulate the stranded costs that utilities have encountered in restructuring. This should not be deemed an obstacle that inhibits our energy planning, but rather an opportunity to better plan our energy and security needs as a state and as a region.

Energy efficient technologies and clean distributed generation (DG) should be a part of this new

planning effort. These resources are both practically easier and less costly to secure because they are smaller in size and are used in on-site locations. Because each small plant has a low-impact on the grid, they are also less likely to cripple the economy for a region or state if there is a system failure due to a human-made or natural disaster. A recent “Issueletter” from the Regulatory Assistance Project (RAP), a non-profit organization that provides assistance to state public utility regulators on electric utility regulation,⁶ discusses ways to address energy security risks.⁷ In the Issueletter, RAP concludes that “energy security (and relieving pressure on the grid) will come from a network with much more energy efficiency and distributed resources than it will from building fortresses around large, fragile facilities and trying to defend miles of transmission lines and gas pipelines.” The report goes on to detail the existing technologies and policies that are needed to build this resilient energy infrastructure.

The report also provides a helpful table that summarizes the security risks for different energy technology choices, and suggests that distributed and renewable resources need to be part of our secure energy future:

Table 1: Security Risks by Technology							
Facility Type	Site Risk	Proximity Risk	Fuel Risk	Consequential Risk	Size Risk	Geographic Risk	Technological & Multi-Systems Risk
Large Remote Generation	High	High	High	High	High	Low	High
Large Local Generation	High	Medium	High	High	High	Low	High
Transmission	High	High	N/A	High	High	Medium to High	High
Distribution	Med.	Low	N/A	Low	Medium	Low	High
Distributed Fuel-Based Generation	Low	Low	High	Low to Medium	Low	Low	Low
Remote Renewable Resources	Low	Medium to High	None	Low	Low	Low	Low to Medium
Distributed Renewable Resources	Low	Low	None	Low	Low	Low	Low to Medium
Energy Efficiency/DSM	Neg.	Negative	Neg.	Negative	Neg.	Negative	Negative

Source: Regulatory Assistance Project, “Electrical Energy Security: Assessing Security Risks, Part I,” April 2002, p. 10.

⁶ RAP is committed to fostering a restructuring of the electric industry in a manner that creates economic efficiency, protects environmental quality, assures system reliability and applies the benefits of increased competition fairly to all customers. More information is available at www.rapmaine.org.

⁷ See www.rapmaine.org for the April 2002 Issueletter “Electrical Energy Security: Assessing Security Risks, Part I.”

In addition to the new security issues in energy planning, New Hampshire and the region must also address the load constraints that occur during each summer when we are dangerously close to peak capacity. During times when the grid is close to capacity, ISO-New England works closely with the industry and communicates with state officials in an effort to prevent rolling black-outs. This system has been successful in the past two summers; however, there is room for improvement, including better promotion of the Load Management Program. Load response is increasingly seen as a good short-term approach to dealing with capacity issues, and a diverse group of interested parties has been working on a new initiative called the “New England Demand Response Initiative” (NEDRI) over the past year to create both short-term and long-term programs for the region.⁸

NEDRI is working to develop a comprehensive, coordinated set of demand response programs for the New England regional power markets. NEDRI’s goal is to outline workable market rules, reliability standards, and regulatory criteria to incorporate a demand response capability into the electricity wholesale and retail markets. The Initiative will promote best practices and coordinate policy initiatives, but will not replace the functions that the ISO and other organizations must perform to design and implement demand-side programs. NEDRI provides a broad-based, facilitated process involving the ISO-NE, state utility and environmental regulators, power generators and marketers, utilities, consumer and environmental advocates, and other stakeholder groups. NEDRI plans to meet at least ten times in plenary session in 2002. Throughout the process, a team of highly-skilled technical consultants will be providing the Stakeholders with “scooping” papers, draft program designs, meeting summaries and agendas, and a final report at the end of the process.

In addition to the work done by energy and environmental regulators on demand response and on a process for temporary easing of environmental restrictions during significant load constraints in the summer months, energy officials also need to coordinate with water regulators to allow for similar restrictions when the need for electricity requires full use of our hydroelectric resources. For example, this past summer when New England was dangerously close to capacity, regulators learned that at least 500 MW of energy was not available due to imposed water restrictions to address the drought conditions. A mechanism needs to be established to assure that in an effort to prevent rolling or spot black-outs, such bans may be temporarily lifted to avert a crisis. Despite the fact that NH is a net exporter of energy, if there is a black-out somewhere in the region, it can stress the entire grid network and have serious consequences for both our economy and our environment.

Other important energy - environmental collaborations at the regional level are facilitated by the New England Governor’s Conference (NEGC). NEGC is an informal alliance among the six Governors in the

⁸More details on NEDRI are available at www.nedri.raabassociates.org.

region. It has been in existence since colonial days, and was formally established in 1937 to promote New England's economic development and related issues. In 1981, the Conference incorporated as a non-partisan, non-profit corporation. The region's six governors serve as its Board of Directors, and annually select a Chairman to oversee the activities of the organization.

NEGC jointly administers the Northeast International Committee on Energy (NICE) with the Eastern Canadian Premiers (ECP), which includes the leaders of Newfoundland and Labrador, New Brunswick, Nova Scotia, Prince Edward Island, and Quebec. Through NICE, the NEGC/ECP have adopted the Climate Change Action Plan (CCAP), and formed a Steering Committee of staff members from the Governors and Premiers energy and environmental agencies to implement the CCAP.

The Steering Committee worked in five teams to develop initiatives to meet the goals of the CCAP: Energy, Transportation, Inventory and Registry, Adaptation, and "Lead by Example." In August 2002 the leaders met and adopted the initiatives proposed by the Steering Committee. The initiatives include several that will be implemented over the next year, including energy efficient traffic lights, working with colleges and universities to achieve emissions reductions, committing states and provinces to purchasing energy efficient office equipment, and the increased use of cleaner and more fuel efficient cars in state and provincial fleets. Details on these and other activities can be found at www.negc.org.

The work of NEGC/ECP has been recognized as a model for international cooperation on energy, environmental and economic issues. New Hampshire's continued role in this group will result in benefits to the state and the region.

5.3 Recommendations for Representing New Hampshire in the Region

New Hampshire has been well represented at the regional and national levels by the Public Utilities Commission, ECS, the Department of Environmental Services Air Resources Division, and the Governor's Office through participation in several groups and initiatives, including NASEO (National Association of State Energy Officials), NARUC (National Association of Regulated Utility Commissioners), NECPUC (New England Conference of Public Utility Commissioners), New England Governor's Conference (NEGC), and CONEG (Coalition of Northeast Governors). The increasing importance of regional issues requires the continued attention of New Hampshire regulators and policymakers to ensure that New Hampshire's interests are protected. The PUC has played a leadership role in representing the state's interest at the regional level, and should be provided with the resources to continue in this important role. It should also continue to coordinate with other state agencies working on related issues at the regional level.